

TECHNICAL SPECIFICATIONS OF COMPUTED RADIOGRAPHY SYSTEM

S.N. Description of function

Radiography system to replace conventional Film/Screen based X-Ray Processing techniques with Photostimulable Phosphor Plate technology based Digital technology..

S.N. Operational requirements

The system shall be able to record X-Ray images on Imaging Plates(IP)

The IP shall be housed in CR Cassettes that have a technology to store demographic data.

Operationally and functionally equivalent to and better than the present film based system

Convert these images from the IP into digital values and transfer these values to an image evaluation computer with predefined Image Processing Parameters.

Should record Patient Identification data on the on the image.

Maintain and manage data bank of all patient and image data.

Retrieve and reproduce accurate , high quality high resolution images from stored data without loss of image quality.

Present CR images on a workstation as well as on hard copies.

Show full image in the X-Ray room for preview purposes.

Read and Write in CD/DVD for data Storage and review.

Appropriate technology to provide uniform and thick slice thickness.

S.N. Technical Specifications

Image Reader will have the following :

Cassette Mechanism to Load and Unload IP .

Scanning mechanism to read, erase and process the images from the imaging plate. (IP)

Including auto routing newly acquired images to desired preview monitor.

IP processing rate > 50 plates/hr.

Panel for indicating online status of the CR Reader in case of machine malfunction.

Emergency Mode for accepting exposed cassettes without patient demographics for casualty trauma workflow requirements.

Capability of retrieving at least 10 scanned images and quick check of the exam data and the image of at least the last four cassettes scanned at the X-Ray room. Verification of the connectivity status of configured image destination.

Spatial resolution of digital image 6 pixels/mm or more.

Scanning resolution for all the IP Plates should be specified in the quote.

Should enable 12 bit and above images.

X-Ray Generator compatibility.

CR Workstation will have the following.:

Capable of Archiving and printing selected images to a standard DICOM destination in DICOM 3.0 format.

Storing images in the local disk for predefined period.

Mechanism for accepting new images when the local disc is full..

Sorting of patient image based on name,date,exam etc.

Advance Processing Software

Using predefined parameters or user defined and stored image parameters.

Correcting typographical in patient demographic module, in case RIS connection was down and manual data entry was done.

Capability of changing R/L,Flipping , Rotating, Zooming,Collimating, annotating the incoming image..

Multi image and slide formats.

Capability of storing in CD/DVD.

Software for Advance Image processing, applications, display and quality monitoring.

Connectivity and compatibility to communicate to RIS/HIS and DICOM

Compatible devices such as MR/CT/DSA Work station,

Should provide for HL-7 compatible interface.

Remote ID and Preview station. Should have the following:

Auto detection of cassette.

Mechanism of writing /reading data using suitable technology

HIS/RIS/DICOM Compatibility.

Preview scanned images on predefined preview terminal.

Retrieving capality of last 10 patient ID on the terminal.

Identification of overexposure on preview module.

Mechanism for user release in case of autorouting images.to predefined DICOM destinations

System should be able to support minimum 5 review terminals

Preview display time < 45 sec.

Dry View Imaging Printer/Dry Imager/LASER Printer

(film based) with the following:

Print Images from CR workstation. In DICOM 3 format.

Mechanism to print images to 8x10 and 10x12, 11x14, 14x17 film sizes with minimum 2 universal tray online)

Resolution> 500 DPI.

Multiple Image and slide printing capability.

S.N. System Configuration Accessories, spares and consumables

IP/Cassettes size- qty

14x 17 03

10x 12 02

8 x 10 02

Image Reader system 01
CR Workstation 01
RIS Interface 01
Remote ID and Preview station. 01
Archiving System 01
Dry View Imaging Printer/Dry Imager/LASER Printer

(film based)

Black and white laserjet printer for reporting

56

S.N. Environmental factors

The unit shall be capable of operating continuously in ambient temperature of 25 ± 5 Deg Celcius and relative humidity of 80%

S.N. Power supply

Power input to be 220-240VAC, 50Hz, fitted with Indian plug
Resettable overcurrent breaker shall be fitted for protection
Spike protector of appropriate rating should be provided
UPS of suitable rating conforming to IS-302 shall be supplied

S.N. Standards and safety

Should be FDA or CE approved product

Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.3 Comprehensive guarantee for 3 years of complete system.

S.N. Documentation

User manual in English

Service manual in English

List of important spare parts and accessories with their part number and costing.

Certificate of calibration and inspection from factory.

Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist.

The job description of the hospital technician and company service engineer should be clearly spelt out